



# THE KEY TO PERFECTION.

Professional Audio Solutions.

 **SENNHEISER**





## THE TOP OF THE LINE IN PROFESSIONAL AUDIO PRODUCTION

When it comes down to the biggest broadcasts, Sennheiser's Professional Series plays in its own league. Demanding, professional productions like concerts, sporting events and television broadcasts are reliably covered by state of the art wireless microphones, versatile transmitters and powerful rackmount and portable receivers. A wide range of professional broadcast headsets, accessories and customizable extras make it the world's best series for studio, theater and outdoor applications.

## SENNHEISER'S SPECIAL SERVICE

We will not let you down in the middle of a song: an international team of RF experts assists you with optimal systems and multi-channel solutions wherever you are. These experienced people ensure a production far above the standards. Just ask your local Sennheiser subsidiary for contact data.



## NEW WAYS TO PERFECT SOUND

To inspire your audience you always have to be one step ahead. That is why Sennheiser has recently updated the components of its award-winning Professional Series. Now more than ever they guarantee a good investment for the future. Sennheiser's Professional Series offer up to 184 MHz of switching bandwidth that will provide you maximum flexibility – no matter where you are. And for maximum flexibility, the new generation of the EM 3732-II true diversity receiver can also receive the handheld, bodypack and plug-on transmitters of Sennheiser's 2000 and evolution wireless G3 Series. Discover on the following pages all the new highlights and solutions this innovative Professional Series has to offer.

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## EM 3732-II

### High-End True Diversity Receiver



#### Your World with Enhanced Flexibility.

The new EM 3732-II is the heart of your high-end wireless transmission. At big events, such as concerts, live television broadcasts, theater or major sporting events, you have a professional, state of the art solution. Its switching bandwidth of up to 184 MHz ensures flexible use even in a densely occupied frequency spectrum. Frequencies adjustable in 5 kHz steps and the integrated frequency scan allow a local, quick system configuration. For the first time ever the EM 3732-II

can also be used in combination with Sennheiser 2000 Series and evolution wireless G3 hand-held and bodypack transmitters, opening a whole new world of possibilities for flexible use. The EM 3732 COM-II is also equipped with a command audio output. The command option allows to route the signal to a second audio output if triggered from a command transmitter. Without the use of this transmitter it does also work as a microphone splitter.

#### Reliable – Even under the Toughest Conditions.

The EM 3732-II shows its strengths especially in complex live settings and multi-channel operation. Highly linear RF amplifiers ensure maximum transmission safety even in a crowded frequency spectrum.



**Flexibility** Large switching bandwidth of up to 184 MHz. Find the optimal frequency range in the most dense frequency spectrums.



**Connectivity** Ethernet connection for PC and Mac, Command Audio output, AES digital audio output with word clock synchronization. In addition, an integrated antenna splitter.



**Safety** High transmission reliability is always guaranteed.



**Convenience** Synchronize channel settings with a single key stroke.



**Clarity** High-contrast OLED Display with icon-based menu structure for a good overview.



**Usability** Jog dials and hot keys for very ergonomic handling.



**Compatible** For use with Sennheiser 5000, 2000 and evolution wireless G3 Series due to HDX and HDP (HighDyn *plus*™) compander emulated in DSP.



## Complex System, Easy Operation.

The usability and functionality of the EM 3732-II leaves nothing to be desired. Its icon-based menu is user-friendly and clear, easily operated via jog dial. You have the most relevant information in view. The Wireless Systems Manager Software (WSM) for Macs and PCs enables you to monitor and control all device parameters during live performances. You can find all the brand new features of WSM on page 10.

## The Network Specialist.

Thanks to the zero configuration network function of the EM 3732-II, complex systems can easily be connected to a PC or Mac via the integrated Ethernet connection. The EM 3732-II True Diversity Receiver can be daisy chained up to 16 channels without the need for an external antenna splitter. The device comes with an AES digital audio output with Word Clock Synchronization.

## What Matters in the End Is Perfect Sound.

All Professional Series components follow the unique Sennheiser passion for sound. No matter if you are a sound engineer, an artist or a listener: the EM 3732-II stands for exceptional audio quality and a state of the art concept. Special features include the DSP-based HiDyn *plus*™ and HDX expander and the transformer-balanced audio outputs.

## Available variants.

EM 3732-II (twin receiver), EM 3731-II (single receiver), EM 3732 COM-II (with command audio output)



# SKM 5200-II

## State of the Art Handheld Transmitter

Backlit LC display:  
enables the adjustment of  
all selectable parameters  
of the SKM 5200-II.



### A Sound Supreme.

Its legendary audio quality, outstanding transmission reliability and design has made this RF wireless microphone the ideal partner for demanding productions, shows and broadcast applications. The world's best artists deserve to rely on the crystal clear and natural sound of the SKM 5200-II. Eight interchangeable microphone heads, including two Neumann capsules, let you take on every task.

### Maximum Flexibility.

The frequency agility of the new SKM 5200-II plays in a league of its own. The wide bandwidth of up to 184 MHz ensures flexible use in every wireless setting. Sensitivity can be adjusted in 1 dB steps to adapt to any production situation. The switchable low-cut filter reduces wind and handling noise whenever needed.

### The Easy-Operation-Principle.

A backlit LCD clearly indicates all audio and RF settings, while an automatic lock mode avoids accidental changes. With a push of a button you easily synchronize the frequency and name of the EM 3732-II with the transmitter via infrared. These features allow you to concentrate on what is the major deal: great sound without limitations.







# SK 5212-II

## Top of the Line Bodypack Transmitter



### The greatest, smallest Performer.

This surprisingly small bodypack transmitter (60 x 50 x 17 mm) is the result of the latest technology arising from Sennheiser's vast experience in RF wireless transmission. Rugged but light, the SK 5212-II is ideal for theater, stage, TV, movies, musical shows and all applications where a bodypack transmitter needs to be invisible.

### Maximum Versatility.

The SK 5212-II features comfortable operation with its jog dial and backlit display. With a switching bandwidth of 184 MHz tunable in 5 kHz steps,

the SK 5212-II provides true flexibility to match the most demanding frequency situation. Its wide range of input sensitivity, adjustable in 1 dB steps from -30 to +40 dB makes this transmitter versatile enough for every requirement, from quiet interview situations to powerful singers in musical and stage performances. Switchable RF power, battery status transmission and a selectable low-cut filter ensure you the optimum in sound and performance. With a push of a button you easily synchronize the frequency and name of the EM 3732-II with the transmitter. The Low Intermodulation mode of the SK 5212-II allows to significantly reduce

transmitter intermodulation. Thus, the channels can be allocated more closely and the spectrum is used much more efficiently.

### A Hero in Every Conceivable Situation.

You can choose from a large series of microphones and accessories including lavalier microphones and headband microphones to match the needs of every live, musical, theater and broadcast setting. The SK 5212-II delivers powerful features – but needs only one AA battery for at least 5 ½ hours of operation.

WSM

# Wireless Systems Manager (WSM) Software



## The next Dimension of Real-Time Control.

The Wireless Systems Manager (WSM) is your software solution for monitoring and remotely controlling wireless Sennheiser microphone and monitoring systems. Using this software, you can constantly monitor connected devices and easily configure them at any time. The WSM ensures maximum reliability and control with wireless audio transmissions and also saves valuable time when setting up your system.

The WSM is the first choice in live performances, TV studios, theaters and musical productions. The extensive range of functions ensures that your production runs smoothly.

The software integrates wireless microphones and monitoring systems as well as professional and semi-professional series of different generations (3000, 2000, evolution wireless G3 and G2) into a single platform.

Thanks to regular updates, you are always on the cutting-edge. Download the Wireless Systems Manager free of charge at [www.sennheiser.com](http://www.sennheiser.com).



## MKE 1

### Our smallest Clip-On Microphone

Whether used in musicals, live shows or broadcasting: MKE 1, Sennheiser's smallest clip-on microphone, delivers its greatest performance exactly where a microphone must be invisible – and still offers great sound without making any compromises. With a comprehensive range of accessories and variants, the MKE 1 is your reliable and unfailing sound pro.



## MZ 1

### Professional Accessory Kit for MKE 1

Small Box – Everything Inside. The accessory kit for the MKE 1 offers what is likely the most comprehensive assortment of clip-on microphone system components for extremely varied applications. In addition to a pin mount, a magnetic holder and a flexible microphone clip, it includes windshields in a number of colors, as well as a cover-up for invisible attachment. What's more, you can also stow your MKE 1 (not included in the MZ 1 scope of delivery) securely in the box.



## Ear Set 1 and Ear Set 4

### Strong performers on any stage

Whether used in large shows and live events or in a TV studio: the new generation of professional single-sided headsets, Ear Set 1 and 4, gives strong voices perfect sound and guarantees reliable sound transmission. Ear Set 1 and 4 are optimized for use in live shows and broadcasting and fit comfortably on the ear thanks to silicon padding. Ear Set 1 offers the proven acoustics of the MKE 1 miniature clip-on microphone, Ear Set 4 those of the HSP 4. Both Ear Sets are available in black and beige.



# Professional Broadcast Headsets

## Getting it right.

Sennheiser Professional Broadcast headsets ensure smooth communication in every broadcast production, even in noisy surroundings and under heavy stress. No misunderstandings, no second take needed.

### HMDC 26 Active noise reduction.

The closed and supra-aural headsets in the HMDC 26 Series feature the active NoiseGard™ system for noise compensation up to 90%. The integrated dynamic microphone with hyper-cardioid characteristic is designed for noisy environments and less sensitivity against structure-born sound.



### HMD 26 Clear speech transmission.

The lightweight headsets in the HMD 26 Series, with their closed supra-aural design, have been developed for professional broadcast applications. The dynamic microphone with hyper-cardioid pattern features excellent acoustic performance, with linear frequency response over a broad frequency range up to 16 kHz. Also available as single-sided variant.



### HME 26 Linear frequency response.

Ideal for use in radio and television studios. The headphones of the HME 26 Series are dimensioned for particularly high sound pressure levels. The omni-directional condenser microphone features excellent transmission qualities due to its linear frequency response. Also available as single-sided variant.



### HMD 280 Ideal for Monitoring.

Especially designed for communications in high-noise environments and monitoring task. Its dynamic, super-cardioid microphone has been optimized for close talking distances. Also available as single-sided variant (HMD 281).





## Professional Accessories



### AB 3700 Broadband Antenna Booster

This high class broadband antenna booster complements the EM 3731, EM 3732, EM 3732-COM, EM 2000 and EM 2050 receivers. The in four different stages adjustable gain allows you to compensate losses on different cable types and lengths.



### AD 3700 Directional Antenna

The directional antenna with integrated AB 3700 booster improves the RF signal of multichannel systems. It complements the EM 3731, EM 3732, EM 3732-COM, EM 2000 and EM 2050 receivers.



### A 3700 Omni-directional Antenna

The omni-directional antenna with integrated AB 3700 booster improves the RF signal of multichannel systems. It complements the EM 3731, EM 3732, EM 3732-COM, EM 2000 and EM 2050 receivers.



### Microphone Capsules

Eight interchangeable microphone heads are available. The sound characteristics allow the vocalist to cut through high sound levels on stage.

ME 5002 (omni-directional), ME 5004 (cardioid), ME 5005 (super-cardioid), ME 5005 e (super cardioid), ME 5009 (wide-cardioid), MD 5235 (super-cardioid (dynamic)), KK 104 (Neumann, cardioid), KK 105 (Neumann, super-cardioid)

# Technical Data

## EM 3731-II / EM 3732-II / EM 3732 COM-II

### RF characteristics

Receiver principle	true diversity
Frequency ranges	L: 470 to 638 MHz N: 614 to 798 MHz P: 776 to 960 MHz
Switching bandwidth	up to 184 MHz
Receiving frequencies	6 frequency banks with up to 59 factory-preset frequencies each, 1 frequency bank with up to 60 freely selectable frequencies (tuneable in 5-kHz steps)
Frequency stability	≤ ±2.5 ppm
Sensitivity	typ. 1.5 µV at 52 dB(A)rms S/N
(with HDP, peak deviation)	typ. 15 µV at 115 dB(A)rms S/N
Adjacent channel rejection/spacing	typ. 75 dB/±400kHz
Intermodulation attenuation	typ. 80 dB/±800kHz
Blocking	≥ 80 dB
Squelch	≥ 80 dB
Antenna inputs	13 steps (0 ... 30µV)
Daisy chain outputs	2 BNC sockets (50 Ω) 2 BNC sockets (50 Ω)
	amplification: 0 dB ± 0.5dB (related to the antenna inputs)

### AF characteristics

Compander system	Sennheiser HiDyn <i>plus</i> ™ and Sennheiser HDX, DSP-emulated
AF bandwidth	40 – 20,000 Hz
Nominal/peak deviation	± 40 kHz/±56 kHz
Signal-to-noise ratio (1 mV, peak deviation)	≥ 118 dB(A) at +18 dBu/+4 dBu(AF Out)
THD (at 1 kHz, nominal deviation)	... ≤ 0.3%
Latency	≤ 1.9 ms

AF output voltage (peak deviation, 1 kHz <sub>AF</sub> )	+18 dBu to –10 dBu, adjustable in 1-dB steps (transformer balanced)
AF output sockets	1 XLR-3 socket per receiver, 2 XLR-3 sockets per EM3732-II COM receiver
Headphone output	2 x 100 mW at 32 Ω, 10 Ω internal impedance short-circuit proof

### Overall device

Power supply	100 to 240 V~, 50/60Hz
Current consumption	max. 0.4 A
Power consumption	on: max. 20 W (50 VA) device off, booster supply voltage on: max. 9.5 W device and booster supply voltage off: max. 4 W
Mains connector	3-pin, protection class I, as per IEC/EN 60320-1
Booster supply	12 V DC via antenna socket max. 200 mA each, short-circuit proof, switchable
Ethernet	IEEE 802.3-2002, shielded RJ 45 socket with optional locking facility
Digital output	AES3-2003, XLR-3, 44.1, 48, 88.2 or 96 kHz SR, 24 bits, externally synchronizable
Word clock connection	2 BNC sockets (75 Ω), daisy chain output
Accepted sampling rates	44.1 kHz, 48 kHz, 88.2 kHz, 96 kHz
Word clock input	75 Ω, transformer balanced, AC-coupled input voltage range 200 mV ... 5 Vpp max. input voltage 15 V (DC + AC)
Word clock output	transformer balanced, AC-coupled output voltage 2.5 V± 250 mV at 75 Ω source impedance
Dimensions W x D x H [mm]	436 x 215 x 44 (without rack mount “ears”)
Weight	approx. 4080 g (incl. rack mount “ears”) approx. 3600 g (without rack mount “ears”)

## SKM 5200-II

### RF characteristics

Frequency ranges	L: 470 to 638 MHz N: 614 to 798 MHz, N-US: 614 to 697.9 MHz P: 776 to 866 MHz
Switching bandwidth	up to 184 MHz
Transmission frequencies	frequency bank “FIX” with up to 59 factory-preset frequencies frequency bank “VAR” with 20 freely selectable frequencies (frequencies tuneable in steps of 5 kHz)
RF output power	switchable, typ.: 50 mW (PWR.Hi) 10 mW (PWR.LO) 10 mW (PWR.Lol)
Frequency stability	±10 ppm in specified temperature range

### AF characteristics

Compander system	Sennheiser HiDyn <i>plus</i> ™
AF frequency response	60 – 20,000 Hz
Nominal/peak deviation	± 40 kHz/± 56 kHz

Signal-to-noise ratio	typ. 110 dB (A) <sub>rms</sub>
THD (at 1 kHz, nominal deviation)	... < 0.5%
Sensitivity	adjustable in steps of 1 dB from –40 to 0 dB
Low-cut frequency (-3dB)	adjustable (flat, 120 Hz, 190 Hz)

### Overall device

Power supply	B 5000-2: 1.5 V AA primary cells or BA 5000-2: rechargeable battery pack
Operating time	with B 5000-2: PWR.LO: approx. 13 hrs PWR.HI: approx. 7.5 hrs PWR.Lol: approx. 7.5 hrs with BA 5000-2: PWR.LO: approx. 12 hrs 40 min. PWR.HI: approx. 7 hrs 20 min. PWR.Lol: approx. 7 hrs 20 min.
Dimensions	length: 200 mm (without capsule), Ø 35.5 mm
Weight	approx. 300 g incl. BA 5000-2 (without capsule)

## SK 5212-II

### RF characteristics

Frequency ranges	L: 470 to 638 MHz N: 614 to 798 MHz, N-US: 614 to 697.9 MHz P: 776 to 866 MHz
Switching bandwidth	up to 184 MHz
Transmission frequencies	frequency bank “FIX” with up to 59 factory-preset frequencies frequency bank “VAR” with 20 freely selectable frequencies (frequencies tuneable in steps of 5 kHz)
RF output power	switchable, typ.: 50 mW (PWR.Hi) 10 mW (PWR.LO) 10 mW (PWR.Lol)
Frequency stability	± 10 ppm in specified temperature range

### AF characteristics

Compander system	Sennheiser HiDyn <i>plus</i> ™
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AF frequency response	60 – 20,000 Hz
Nominal/peak deviation	± 40 kHz/± 56 kHz
Signal-to-noise ratio	typ. 110 dB(A) <sub>rms</sub>
THD (at 1 kHz, nominal deviation)	... < 0.3%
Sensitivity	adjustable in steps of 1 dB from –30 to +40 dB
Input sensitivity at nominal deviation	–40 dBu = 7.75 mV
Low-cut frequency (–3 dB)	adjustable (flat, 120 Hz)

### Overall device

Power supply	1 AA size battery, 1.5 V
Operating time	PWR.LO: approx. 10 hrs PWR.HI: approx. 5.5 hrs PWR.Lol: approx. 5.5 hrs
Connectors	AF: 3-pin special audio socket RF: coax socket
Dimensions	approx. 53 x 60 x 17 mm
Weight	approx. 120 g incl. battery and antenna

## AB 3700 / AD 3700 / A 3700

Frequency range	470 – 866 MHz
Gain	bypass (–3 dB), 5, 10, 15 dB; – 6dB without booster feed
OIP3	≥ 32 dBm
Power supply	9 - 15 V DC / 160 mA - 100 mA, DC feed via antenna cable
Display of adjusted gain	Multi-colour LEDs

Mounting thread	3/8" and 5/8"
Input/output	BNC
Impedance	50 Ω
Front-to-back ratio (AD 3700)	≥ 14 dB
Antenna characteristics (AD 3700)	Directional antenna, opening angle: 100°
Antenna characteristics (A 3700)	Omni-directional antenna



## MKE 1

Pick-up pattern	omni-directional
Frequency response	20 – 20,000 Hz $\pm$ 2.5 dB
Sensitivity (1 kHz)	5 mV/Pa $\pm$ 2.5 dB
Nominal impedance	1,000 $\Omega$
Equivalent noise level A-weighted	27 dB

CCIR-weighted	39 dB
Cable length (MKE 1-4)	1.6 m
Connector (MKE 1-4)	3-pin special connector
Diameter of microphone head	3.3 mm

## Ear Set 1

Frequency response	20 – 20,000 Hz $\pm$ 3 dB
Pick-up pattern	Omni-directional
Nominal impedance (at 1 kHz)	1 k $\Omega$
Min. terminating impedance	4.7 k $\Omega$
Sensitivity (at 1 kHz)	5 mV/Pa $\pm$ 2.5 dB
Capsule diameter	3.3 mm
Maximum sound pressure level	143 dB (passive)
Equivalent noise level	27 dB (A)
Current consumption	ca. 240 $\mu$ A
Supply voltage	4.5 to 15 V
Cable length	1.6 m
Microphone boom diameter	1.1 mm
Weight (without cable)	2.3 g

## Ear Set 4

Frequency response	40 – 20,000 Hz $\pm$ 3 dB
Pick-up pattern	Cardioid
Nominal impedance (at 1 kHz)	1 k $\Omega$
Min. terminating impedance	4.7 k $\Omega$
Sensitivity (at 1 kHz)	4 mV/Pa $\pm$ 2.5 dB
Capsule diameter	8.4 mm
Maximum sound pressure level	150 dB (passive)
Equivalent noise level	37 dB (A)
Current consumption	ca. 240 $\mu$ A
Supply voltage	4.5 to 15 V
Cable length	1.6 m
Microphone boom diameter	1.1 mm
Weight (without cable)	4.6 g

## HMDC 26

### Headphone

Transducer principle	dynamic closed
Ear coupling	supra-aural
Frequency response	20 – 18,000 Hz
Impedance	600 $\Omega$ mono / 1,200 $\Omega$ stereo
Sensitivity	108 dB SPL at 1 kHz, 1 mW 110 dB SPL at 1 kHz, 1 V
Maximal SPL	120 dB SPL at 1 kHz
Active attenuation	$\geq$ 18 dB (100 – 300 Hz)
Attenuation (active + passive)	15 – 30 dB
Distortion	< 0.5 % at 1 kHz
Contact pressure	approx. 3.6 N
Weight without cable	approx. 210 g

Power supply for NoiseGard™	2 x 1.5 V AA alkaline battery (IEC LR 6) or 2 x 1.2 V AA rechargeable battery (IEC LR 6); operating time with batteries approx. 60 h
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### Microphone

Type	BMD 424
Transducer principle	dynamic, hyper-cardioid characteristic
Frequency response	40 – 16,000 Hz
Freefield sensitivity, no load	0.4 mV / Pa at 1 kHz
Impedance	300 $\Omega$

## HMD 26

### Headphone

Transducer principle	dynamic, closed
Ear coupling	supra-aural
Frequency response	20 – 18,000 Hz
Impedance	50 $\Omega$ mono/100 $\Omega$ stereo or 300 $\Omega$ mono/600 $\Omega$ stereo
Sensitivity	105 dB SPL at 1 kHz, 1 mW (ActiveGard™ Off)
Maximal SPL	128 dB SPL at 1 kHz, 200 mW (ActiveGard™ Off) 105 dB SPL at 1 kHz (ActiveGard™ Off)

Distortion	< 0.5 % at 1 kHz
Contact pressure	approx. 3.6 N
Weight without cable	approx. 200 g

### Microphone

Type	BMD 424
Transducer principle	dynamic, hyper-cardioid characteristic
Frequency response	40 Hz – 16,000 Hz
Freefield sensitivity, no load	0.4 mV / Pa at 1 kHz
Impedance	300 $\Omega$

## HME 26

### Headphone

Transducer principle	dynamic, closed
Ear coupling	supra-aural
Frequency response	20 – 18,000 Hz
Impedance	50 $\Omega$ mono/100 $\Omega$ stereo or 300 $\Omega$ mono/600 $\Omega$ stereo
Sensitivity	105 dB SPL at 1 kHz, 1 mW (ActiveGard™ Off)
Maximal SPL	128 dB SPL at 1 kHz, 200 mW (ActiveGard™ Off) 105 dB SPL at 1 kHz (ActiveGard™ Off)

Distortion	< 0.5 % at 1 kHz
Contact pressure	approx. 3.6 N
Weight without cable	approx. 200 g

### Microphone

Type	BKE 4-2 omni-directional
Transducer principle	pre-polarized condenser
Frequency response	40 Hz – 20,000 Hz
Freefield sensitivity, no load	4 mV/Pa $\pm$ 2.5 dB
Impedance	300 $\Omega$

## HMD 280

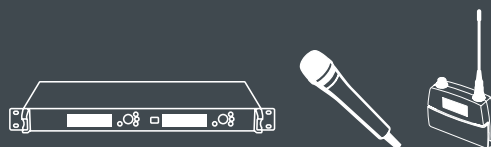
### Headphone

Transducer principle	dynamic
Ear coupling	circumaural, closed
Frequency response	8 – 25,000 Hz (–10 dB / 1 kHz)
Impedance	64 $\Omega$ mono/128 $\Omega$ stereo
Attenuation (active + passive)	max. 32 dB
Distortion	< 0.1 %
Sound pressure level	102 dB (as per IEC 268-7)
Load rating	0.5 W

Contact pressure	approx. 6 N
Weight without cable	approx. 310 g

### Microphone

Transducer principle	dynamic
Frequency response	50 – 13,500 Hz
Pick-up pattern	super-cardioid
Freefield sensitivity, no load	1 mV/Pa
Impedance	200 $\Omega$



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